WHAT IS CLAIMED IS:

1. A lighting circuit for lighting a vehicular lamp including a plurality of light sources each having at least one light-emitting diode, comprising:

a switching regulator operable to output an output voltage based on a power-supply voltage received from an external DC power supply;

a light source selecting unit operable to select said light sources one by one and supply a supply current to a selected one of said light sources by applying said output voltage of said switching regulator to said selected one light source; and

an output controlling unit operable to control said output voltage output by said switching regulator to said selected one light source based on said supply current supplied to said selected one light source.

2. A lighting circuit as claimed in claim 1, further comprising:

a plurality of capacitors connected in parallel to said plurality of light sources, respectively; and

a plurality of diodes connected in forward direction between said switching regulator and said plurality of capacitors, respectively.

3. A lighting circuit as claimed in claim 1, wherein said output controlling unit includes:

reference-value outputting units, provided to correspond to said plurality of light sources, respectively, operable to output reference values different from one another, respectively; and a selection-comparison unit operable to control said output voltage of said switching regulator based on a result of comparison of said supply current supplied to said selected one light source selected by said light source selecting unit with one of said reference values output from one of said reference-value outputting units that corresponds to said selected one light source, and wherein

said switching regulator supplies said supply current to each of said plurality of light sources, said supply current being different between said plurality of light sources.

4. A lighting circuit as claimed in claim 1, wherein said switching regulator includes:

a switching device operable to repeatedly switch whether or not a power-supply current based on said power-supply voltage is allowed to flow in said switching regulator; and

a coil operable to output said supply current based on said power-supply voltage, and wherein

said output controlling unit includes:

a plurality of voltage comparators provided to correspond to said plurality of light sources, respectively, each of said voltage comparator comparing a detecting voltage generated based on said supply current to a reference voltage that was determined in advance to correspond to a corresponding one of said light sources; and

a switch controller operable to control said supply current by controlling a duration ratio of a period during which said switching device is on and a period during which said switching device is off based on an output of one of said voltage comparators that corresponds to said selected one light source selected by said light source selecting unit.

5. A lighting circuit as claimed in claim 4, further comprising a selection signal supplying unit operable to supply a light-source selecting signal that specifies said plurality of light sources one by one to said light source selecting unit and said output controlling unit, wherein

said light source selecting unit selects one of said light sources specified by said light-source selecting signal and supplies said supply current to said one light source specified by said light-source selecting signal, and

said switch controller controls said supply current based on said output of said one of said voltage comparators that corresponds to said one light source specified by said light-source selecting signal.